



THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্ব দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

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No. 375 Dispur, Tuesday, 24th May, 2022, 3rd Jaistha, 1944 (S. E.)

GOVERNMENT OF ASSAM

ORDERS BY THE GOVERNOR

DEPARTMENT OF HOUSING & URBAN AFFAIRS

NOTIFICATION

The 2nd May, 2022

No. UDD(T)188/2022/6.- In exercise of the powers conferred by the section 9 (nine) of the Assam Town & Country Planning Act.1959 (Assam Act II of 1960) read with Sub-section I of section 10 (Ten) of Assam Town & Country Planning Act (As amended), the Governor of Assam is pleased to published the following notice regarding the publication of Draft Master plan for Bijni.

Notice for the Publication of Draft Master Plan for Bijni :

1. It is notified that the Draft Master plan for Bijni prepared by the Directorate of Town & Country Planning, Government of Assam, Town & Country Planning Act.1959 read with Sub-section I of section 10(Ten) of Assam Town & Country Planning Act (As amended), for the area described in the schedule below is hereby published.
2. Any person or persons affected by the Draft Master plan may submit their objection or opinion in writing to the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6 within two months from the date of publication.
3. The Draft Master plan for Bijni with all relevant papers and maps may be inspected free of Cost during office hours at the office of the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6, The Assistant Director, Town & Country Planning, District Office, Bongaigaon, Office of the Assistant Director, Town and Country Planning, District Office-Chirang, the Circle office, Bijni Revenue Circle, Bijni, Office of the Chairman, Bijni Municipal Board, Bijni. Copies of the draft master plan for Bijni are available at the office of the Assistant Director, Town & Country Planning, Bongaigaon and Office of the Assistant Director, Town and Country Planning, District Office-Chirang on payment.

SCHEDULE**1. SITUATION AND AREA**

District	:	Chirang.
Sub Division: 2 nos.	:	Bijni and KajalgaonSadar
Approx Draft Master Plan area :		21.65 sq. km.
Approx Municipal area	:	3.00 sq. km.

2. DESCRIPTION OF BOUNDARIES:-

North	:	Batabari, Barlevichiagaon, Chotlangaon, Matipara
South	:	Monkoja, Jamdoha, Chatling
East	:	Supariguri, Koptupli
West	:	Baghmara, Souraguri, Garemari

3. REVENUE AREA INCLUDED IN THE MASTER PLAN AREA OF BIJNI TOWN COMMITTEE :-

1. Bijni Town Committee : 4 Wards, Bijni Municipality
2. Revenue Circle and villages:

Revenue Circle	Villages
Bijni Revenue Circle	Gerukabari, Mautara, Bhetagaon No. 1, Doturi, Kawatika-1, Bhetagaon No.2, Chatianguri no.2, Chatianguri no. 1, Moneswari, Bijni Gaon, Amguri, Sialmari

KAVITHA PADMANABHAN,

Commissioner & Secretary to the Government of Assam,
Department of Housing & Urban Affairs.

CHAPTER-1: INTRODUCTION

1.1 DEVELOPMENT OF BIJNI TOWN

Bijni is a Town situated in Chirang district of Assam. Bijni is a sub divisional head quarter city which is 27km away from the District head quarter Kajalgaon. Total geographical area of Bijni Town is 3 km². The Bijni Town has population of 13,257 of which 6,682 are males while 6,575 are females as per 2011 Census. Population density of the city is 4419 persons per km². There are 4 wards in the city, among them Bijni ward No 04 is the most Populous ward with population of 3965 and Bijni Ward No 01 is the least populous ward with population of 2911.

1.2 LOCATION ASPECTS:-

Bijni is located on the northern bank of Brahmaputra river, at 26°31'N 90°40'E/ 26.517°N 90.667°E. It has an average elevation of 53 metres (173 feet). The Town is at about 165 Km North West of Guwahati, Dispur the Capital of the State Assam.

1.3 PHYSICAL CHARACTERISTICS

The town is all most flat and level topography with maximum temperature of 36°C and minimum of 9°C. The rivers flowing along the town are river Huani and Ai rivers connected to mighty river Brahmaputra.

CHAPTER-2 : POPULATION ANALYSIS

2.1 GROWTH OF POPULATION BIJNI TOWN

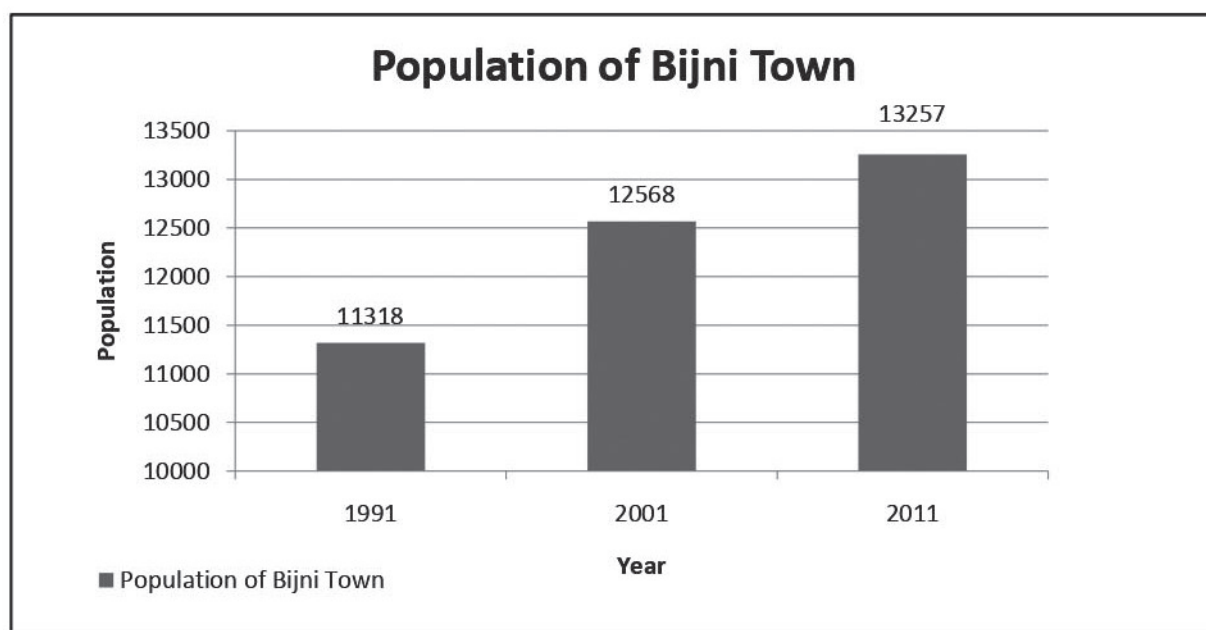
Population of Bijni Town has grown from 11318 in 1991 to 13257 in 2011. The decadal growth of population of Bijni Town from 1991 to 2011 is shown in the table No.2.1. &FIG. 2.1

TABLE 2.1

Population Growth of Bijni Town		
Year	Population of Bijni Town	Decadal Growth rate (%)
1991	11318	
2001	12568	11.04
2011	13257	5.48

Source: Census Of India

FIGURE 2.1



The population growth in the Bijni Town area is quite steady as the town has marginally experienced in-migration. The decadal growth rate of the population of Bijni Town is 11.04% from 1991 to 2001 and 5.48% for the period from 2001 to 2011. (FIG. 2.2).

FIGURE 2.2

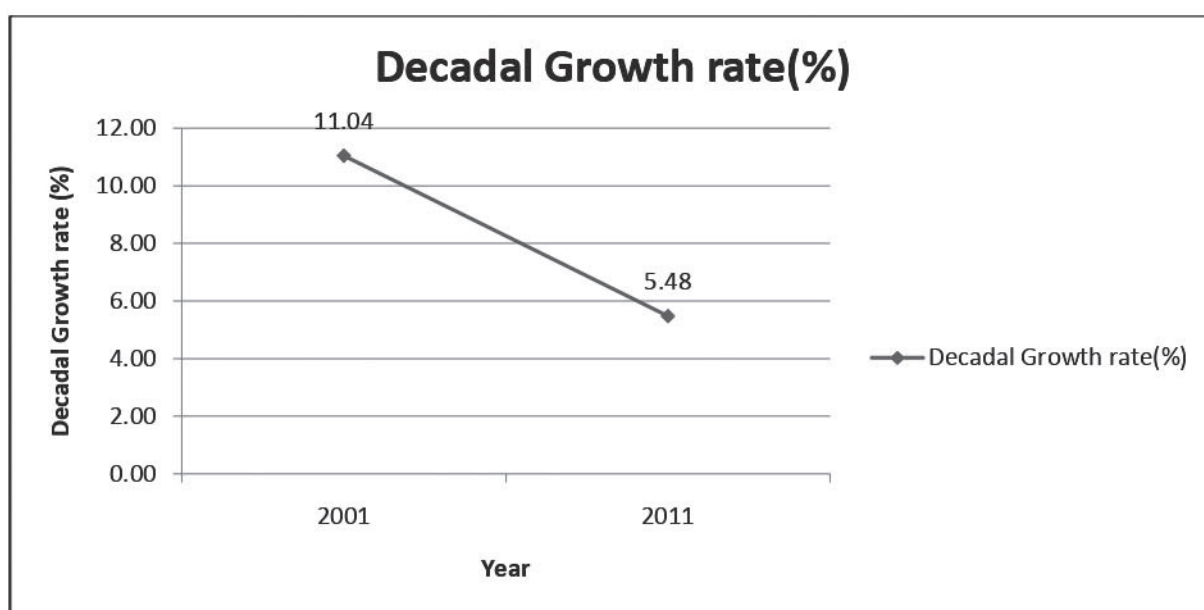
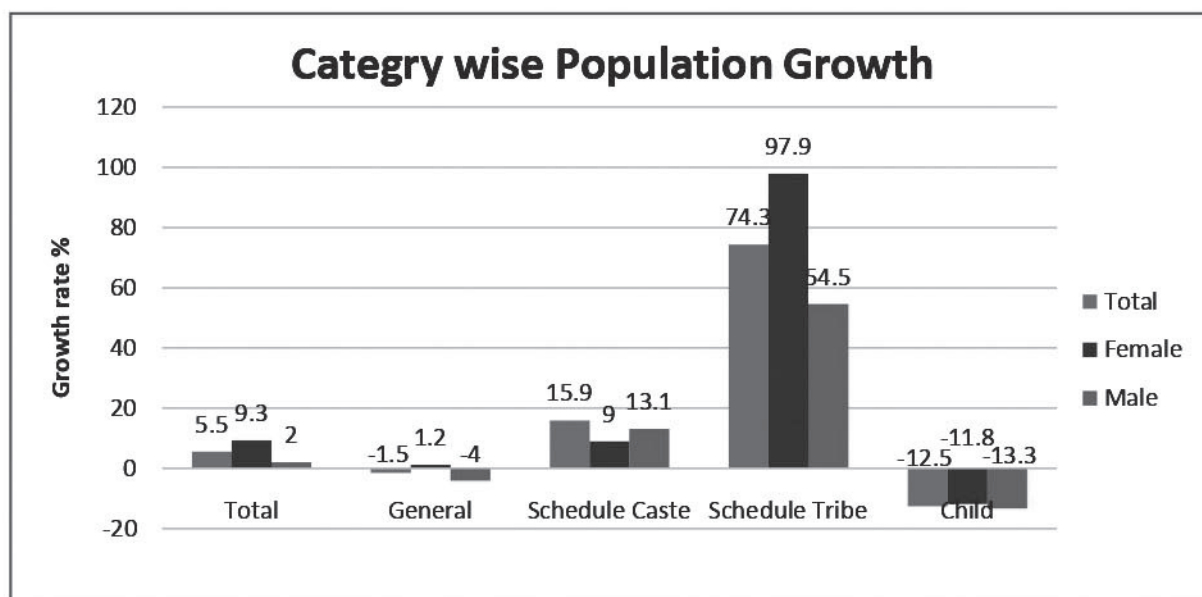


TABLE 2.2: Category wise Population Growth

	Total	General	Schedule Caste	Schedule Tribe	Child
Total	5.5%	-1.5%	15.9	74.3%	-12.5%
Male	2%	-4%	13.1%	54.5%	-13.3%
Female	9.3%	1.2%	19%	97.9%	-11.8%

Female population growth rate of the city is 9.3% which is 7.3% higher than male population growth rate of 2%. General caste population has decreased by -1.5%; Schedule caste population has increased by 15.9%; Schedule Tribe population has increased by 74.3% and child population has decreased by -12.5% in the city since last census. (TABLE 2.2 & FIG. 2.3)

FIGURE 2.3



Source: Office of the Registrar General and Census Commissioner (Web), Delimitation Commission of India (Web), Rand McNally International Atlas 1994, School of Planning & Architecture (Web).

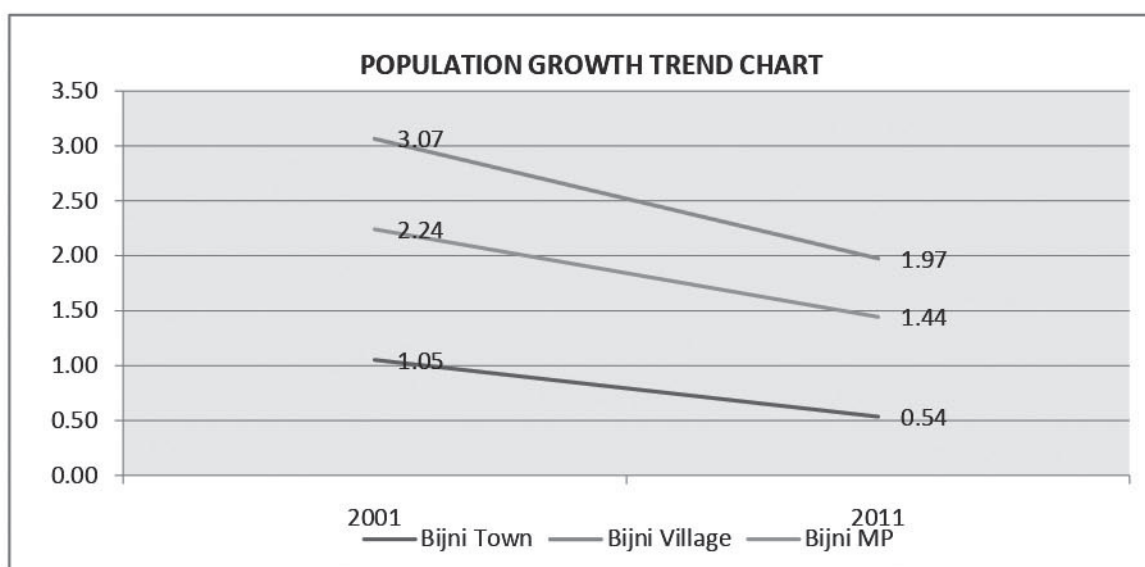
2.2 GROWTH OF POPULATION BIJNI MASTERPLAN AREA

The population of Bijni Master Plan area has been categorized into three components for analysis which are urban, rural and total master plan area population. The decadal growth of population of Abhayapuri Master Plan Area from 1991 to 2011 is shown in the following table. The population of the Master Plan Area has increased from 26234 in 1991 to 37791 in 2011.

Table: 2.3 Decadal Growth Population

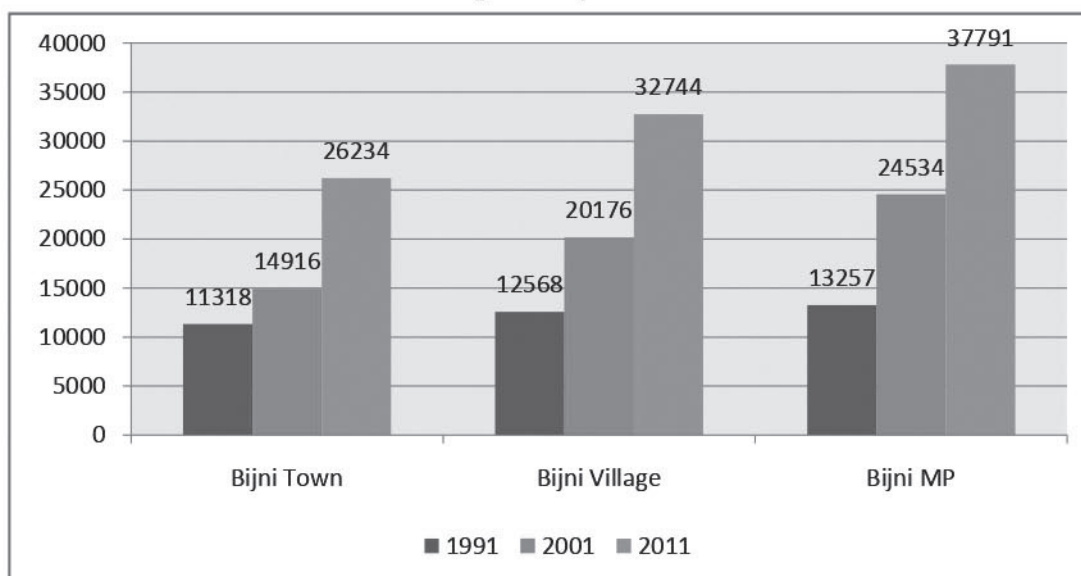
Year	Bijni Town	Bijni Village	Bijni MP	CAGR	CAGR	CAGR
1991	11318	14916	26234	Bijni Town	Bijni Village	Bijni MP
2001	12568	20176	32744	1.05	3.07	2.24
2011	13257	24534	37791	0.54	1.97	1.44

Fig: 2.4 Population Growth Trend



The population growth in the Abhayapuri Master Plan area is quite steady as the town has marginally experienced in migration. The growth trend is higher in the villages in comparison to the town which is a natural increase of population growth. Both the town and village areas have witnessed decline in population growth in the last decade.

Fig 2.5 : Population Growth



2.3 DENSITY OF POPULATION

The Density of Population for Bijni Town Committee is 4419 persons/km².

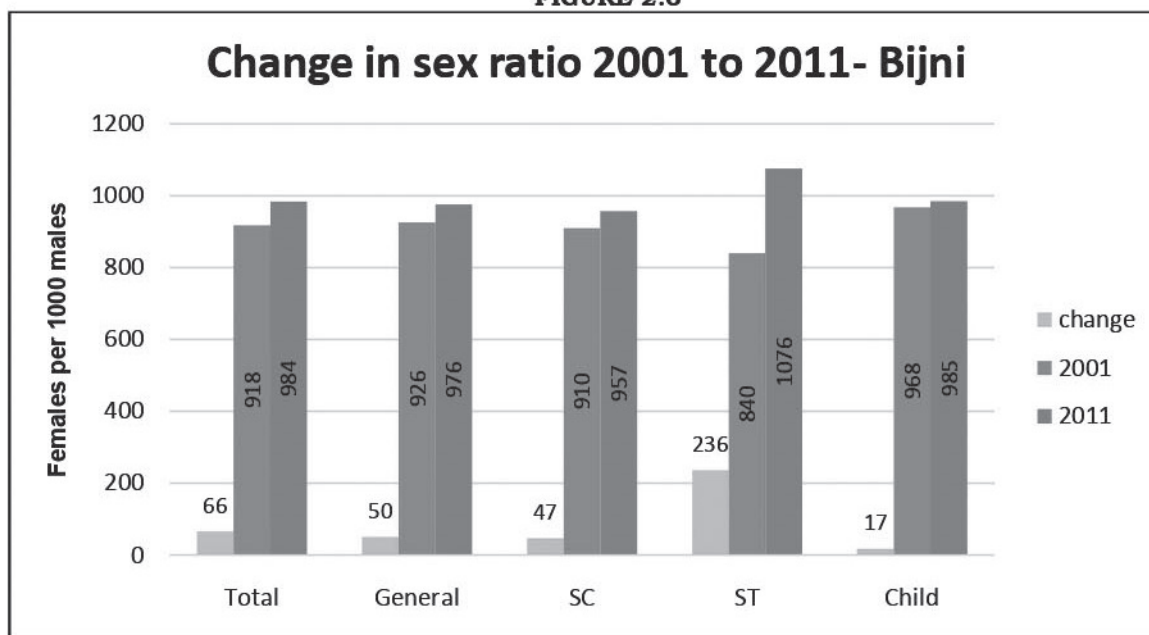
2.4 SEX RATIO

As of 2011 Census there are 984 females per 1000 male in the city. Sex ratio in general caste is 976, in schedule caste is 957 and in schedule tribe is 1076. There are 985 girls under 6 years of age per 1000 boys of the same age in the city. Overall sex ratio in the city has increased by 66 females per 1000 male during the years from 2001 to 2011. Child sex ratio here has increased by 17 girls per 1000 boys during the same time. (TABLE 2.3 & FIG 2.4)

TABLE 2.4: Change in sex ratio 2001 to 2011

	Total	General	SC	ST	Child
Change	66	50	47	236	17
2011	984	976	957	1076	985
2001	918	926	910	840	968

FIGURE 2.6



2. 5 OCCUPATIONAL STRUCTURE FOR BIJNI TOWN

Bijni has 34% (4504) population engaged in either main or marginal works. 57.9% male and 9.6% female population are working population. 53.8% of total male population are main (full time) workers and 4.1% are marginal (part time) workers. For women 6.9% of total female population are main and 2.7% are marginal workers.

FIGURE 2.7

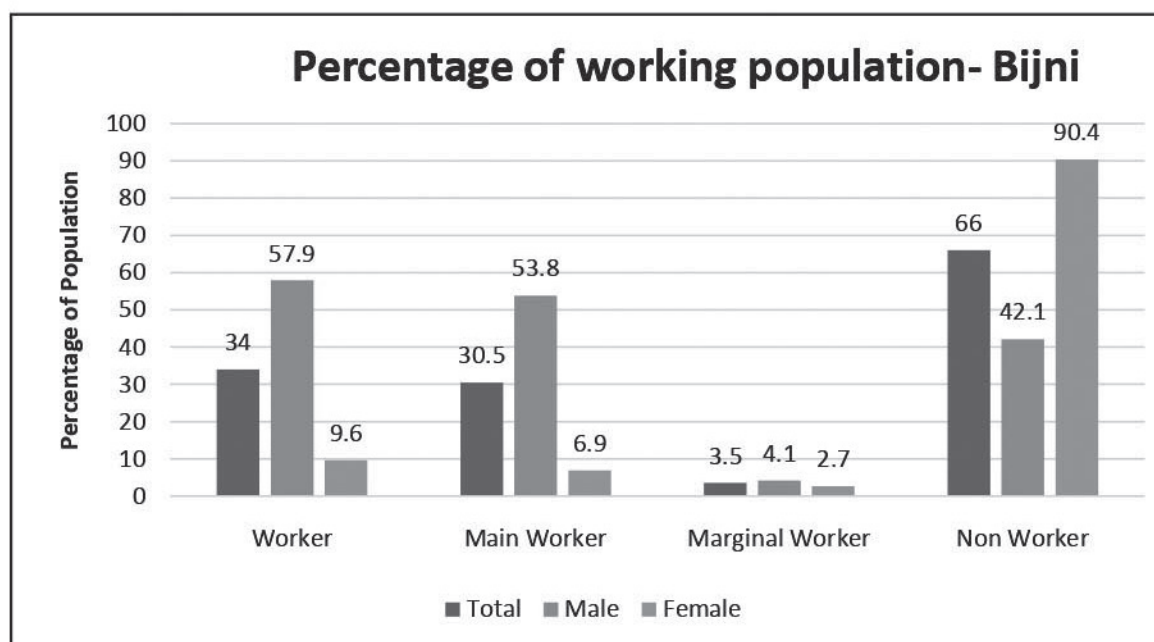
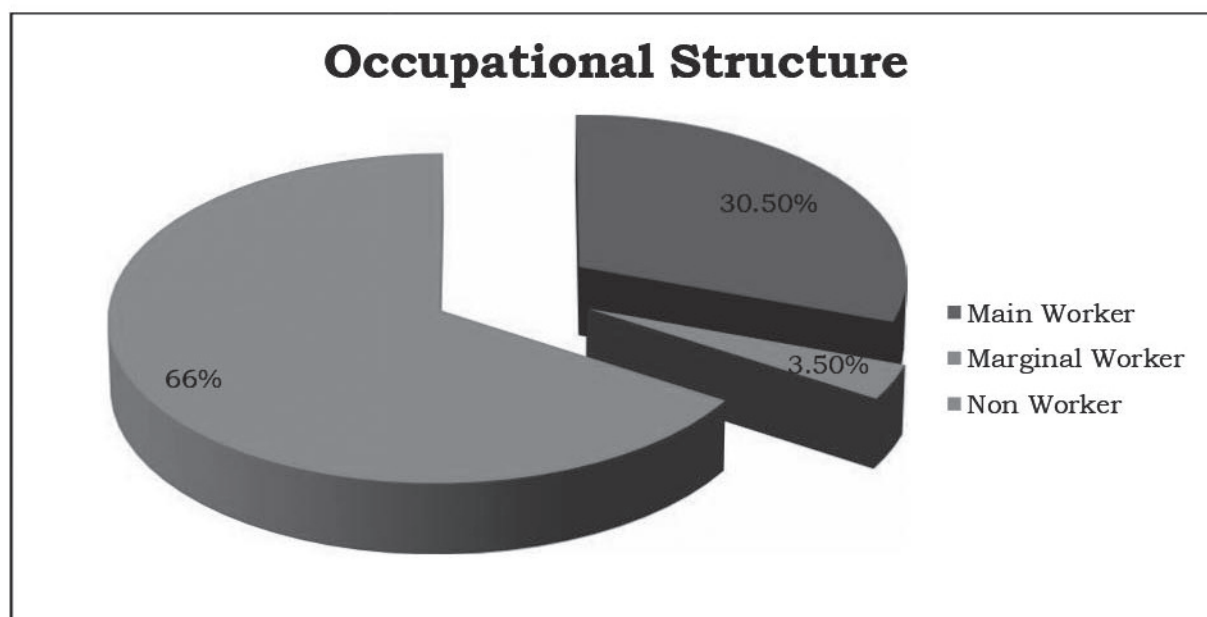


TABLE 2.5: Percentage of working population- Bijni

	Worker (Among total Population)	Main Worker (Among Workers)	Marginal Worker (Among Workers)	Non Worker (Among total population)
Total	34%	30.5%	3.5%	66%
Male	57.9%	53.8%	4.1%	42.1%
Female	9.6%	6.9%	2.7%	90.4%

FIGURE 2.8



2.6 OCCUPATIONAL STRUCTURE FOR BIJNI MASTERPLAN AREA

The occupational structure of BIJNI Master Plan Area is shown in the following Tables.

Table: 2.6 Occupational Structure (Village Area Other Than Town) 2001-2011

Workers type	2001	%age	2011	%age	%age of Growth
Main Worker	5006	24.8	6706	27.3	34.0
Marginal Worker	700	3.5	1047	4.3	49.6
Non Worker	14470	71.7	16781	68.4	16.0
Total	20176	100.0	24534	100.0	

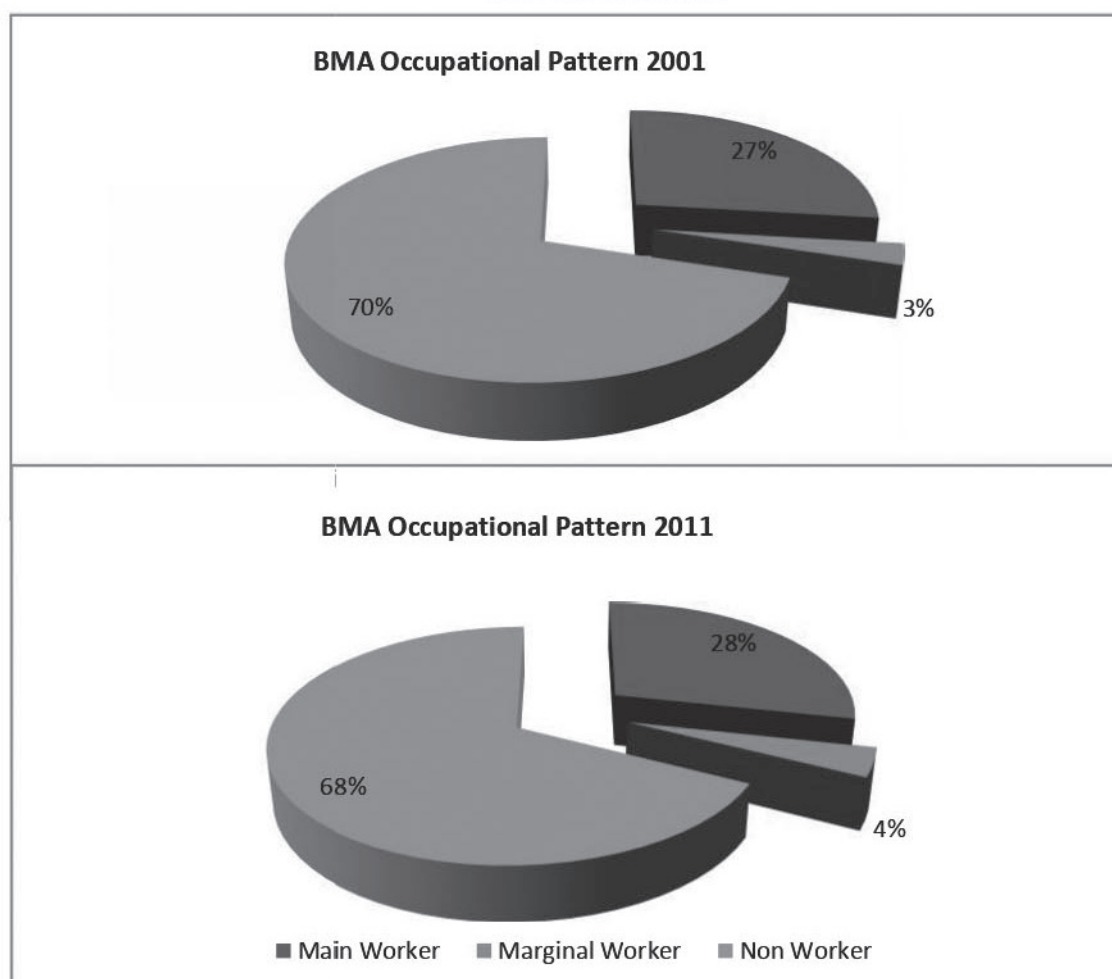
Table: 2.7 Occupational Structure (Bijni Town) 2001-2011

Workers type	2001	%age	2011	%age	%age of Growth
Main Worker	3806	30.3	4046	30.5	6.3
Marginal Worker	238	1.9	458	3.5	92.4
Non Worker	8524	67.8	8753	66.0	2.7
Total	12568	100.0	13257	100.0	

Table: 2.8 Occupational Structure (Bijni Masterplan) 2001-2011

Workers type	2001	%age	2011	%age	%age of Growth
Main Worker	8812	26.9	10752	28.5	22.0
Marginal Worker	938	2.9	1505	4.0	60.4
Non Worker	22994	70.2	25534	67.6	11.0
Total	32744	100.0	37791	100.0	

The main worker of Bijni Master Plan area accounts 26.9%. There has been a significant growth in Main worker in between 2001 to 2011 which is 22 percent. The following Figures give a temporal variation of occupational structure of the Bijni Master Plan Area.

FIGURE 2.9 & 2.10

2.7 POPULATION PROJECTION

Population projection exercise is one of the pre-requisite tasks in any city planning. Population of the Bijni Town has been projected based on an assumed growth rate up to the horizon period. In most cases, the growth rates are arrived at by analyzing trends of natural growth rate of population. Having arrived at the growth rates and understanding the driving forces of such a growth rate, the statistical techniques such as arithmetic increase has been applied to project population for Bijni Master plan. Following Tables give the population projections based on the mentioned method.

Table 2.9: Population Projection Bijni Town based on Arithmetic Method

Projection By Arithmetic Method		Bijni Town		
Year	Bijni Town	Increase	Year	Projected Pop
1991	11318		2011	26514
2001	12568	1250	2021	27484
2011	13257	689	2031	28453
Average Increase Per Decade		969.5	2041	29423

Table 2.10: Population Projection Bijni MP villages based on Arithmetic Method

Projection By Arithmetic Method		Bijni MP Villages		
Year	Bijni MP Village	Increase	Year	Projected Pop
1991	14916		2011	13257
2001	20176	5260	2021	18066
2011	24534	4358	2031	22875
Average Increase Per Decade		4809	2041	27684

Table 2.11: Population Projection Bijni Master plan based on Arithmetic Method

Projection By Arithmetic Method		Bijni Master Plan		
Year	Bijni Master Plan	Increase	Year	Projected Pop
1991	26234		2011	51048
2001	32744	6510	2021	56827
2011	37791	5047	2031	62605
Average Increase Per Decade		5779	2041	68384

Keeping in view of different method of population projection, the Arithmetic method of estimation has been taken in to consideration for a rationale growth of population which has been projected till 2041. The estimated population of Bijni Master Plan Area by 2041 is 68,384.

CHAPTER-3 : LAND USE

Land-use planning leads to land-use regulation, which typically encompasses zoning. Zoning regulates the types of activities that can be accommodated on a given piece of land, as well as the amount of space devoted to those activities, and the ways that buildings may be situated and shaped.

The term “planning”, which relates to land use, is historically tied to the practice of zoning. Conventional zoning has not typically regarded the manner in which buildings relate to one another or the public spaces around them, but rather has provided a pragmatic system for mapping jurisdictions according to permitted land use.

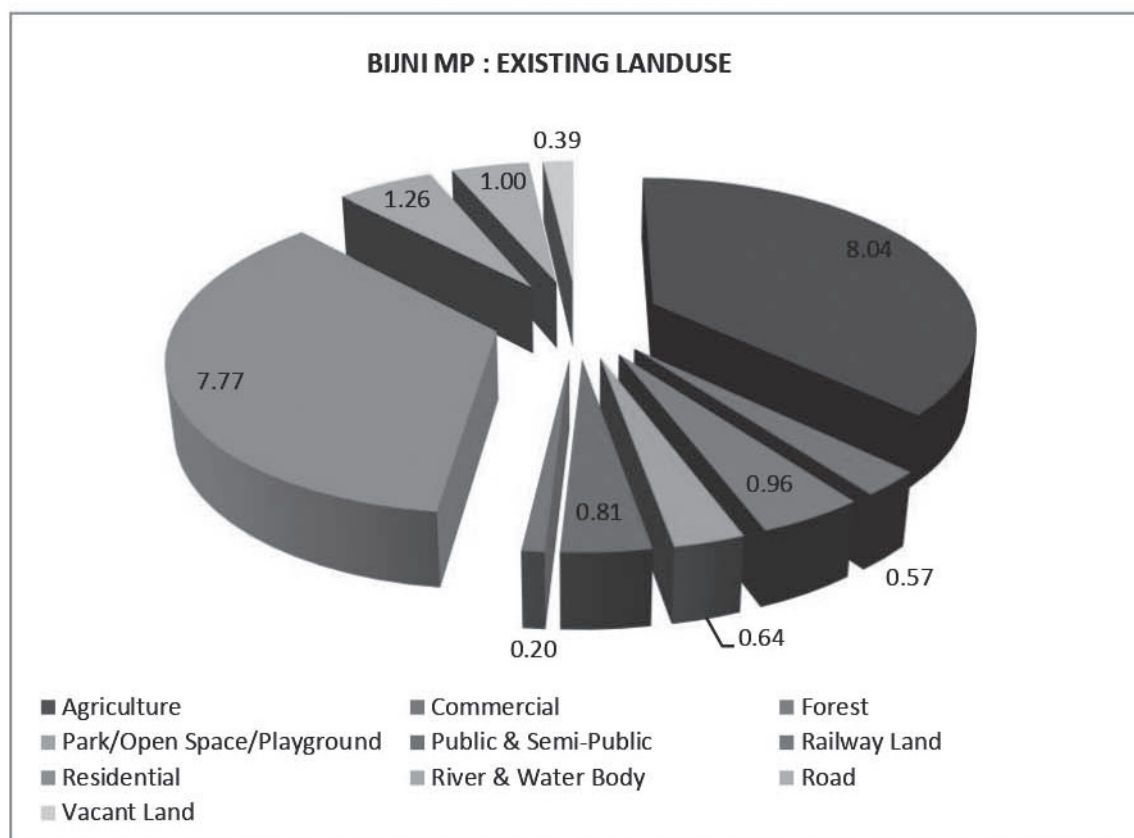
Land use planning practices evolved as an attempt to overcome the urban settlement challenges. It engages citizens and policy-makers to plan for development with more intention, foresight, and community focus.

TABLE 3.1 EXISTING LAND USE ANALYSIS

Land use Type (Existing)	Area (Sq.km)	PC to Developed Area	PC to Total Area
Residential	7.77	70.65	35.89
Commercial	0.57	5.19	2.64
Public & Semi-Public	0.81	7.35	3.73
Railway Land	0.20	1.85	0.94
Road	1.00	9.11	4.63
Park/Open Space/Playground	0.64	5.85	2.97
Total Developed Area	11.00	100.00	50.80
Agriculture	8.04		37.13
Forest	0.96		4.46
River & Water Body	1.26		5.83
Vacant Land	0.39		1.79
Grand Total	21.65		100.00

It can be seen from the above table that there is no proportionate and adequate distribution of land for various land uses. It is seen that around 64% of land in the whole Master Plan Area is developed land and residential area enjoys the major share i.e. around 50 % of developed area. In the total Master Plan Area around 37.31% of land is under Agricultural land use.

FIGURE 3.1 Existing Land use



CHAPTER-4 : TRAFFIC AND TRANSPORTATION

4.1 TRANSPORTATION SYSTEM

Bijni town is well connected with both road and railways. Bijni Railway station is located within the master plan area. National Highway 117 links North Salmara and Bijni. The road network links the town with the district head-quarter of kajalgaon and other towns of the district as well as the nearby district head-quarter of Goalpara, respectively.

4.2 CIRCULATION PATTERN

There is no distinct road hierarchy of roads in the Bijni master plan area. The Bijni Town has road under P.W.D State Road Division and P.W.D Rural road Division.

TABLE 4.1: ROAD DETAILS OF BIJNI TOWN COMMITTEE

Sl. No.	Road type	Length (in km)
1	BLACK TOPPED	10.10
2	C.C PAVEMENT	1.65
3	KUTCHA & GRAVEL	9.35
	TOTAL	21.10

SOURCE: Calculated By T&CP, Bongaigaon

FIGURE 4.1

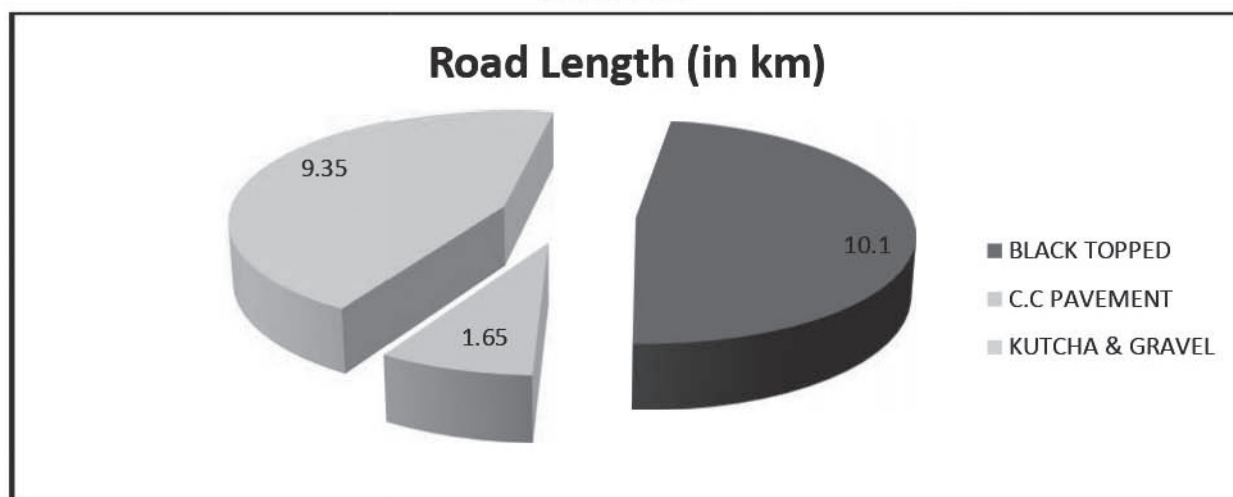


TABLE 4.2: ROAD DETAILS OF BIJNI TOWN UNDER P.W.D RURAL ROAD DIVISION

Sl. No.	Name of the Road	Length of Road	Type of Road	Connected Village
1	Gerukabari Bijni Bazar Road	1 km	Black Topping	Gerukabari
2	Gerukabari Bijni Bazar Road to Mortar	1.20 km	Gravel	Moutara
3	Bijni town to Kawatika	3.00 km	Black Topping	Kawatika

SOURCE: Calculated By T&CP, Bongaigaon

TABLE 4.3: ROAD DETAILS OF BIJNI TOWN UNDER P.W.D STATE ROAD DIVISION

Sl. No.	Name of the Road	Length of Road	Type of Road	Covering Village
1	Bijni Sialmari Road	6.20 km	Black Topping	i. Bijni Town ii. Puran Bijni iii. Sialmari
2	Bijni Panbari Road to Hynanagar	2.20 km	Black Topping	i. Amguri

SOURCE: Calculated By T&CP, Bongaigaon

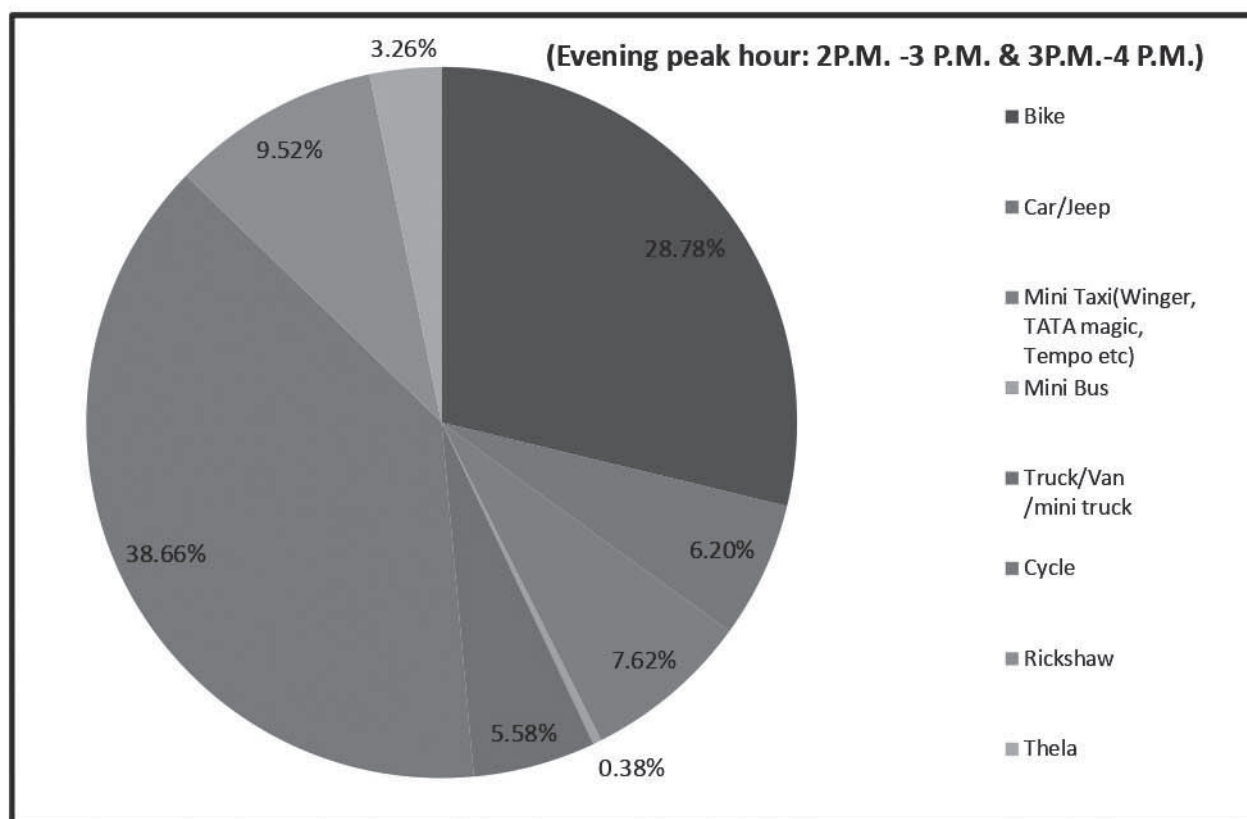
4.3 TRAFFIC VOLUME

4.3.1 CLASSIFIED TRAFFIC VOLUME SURVEY

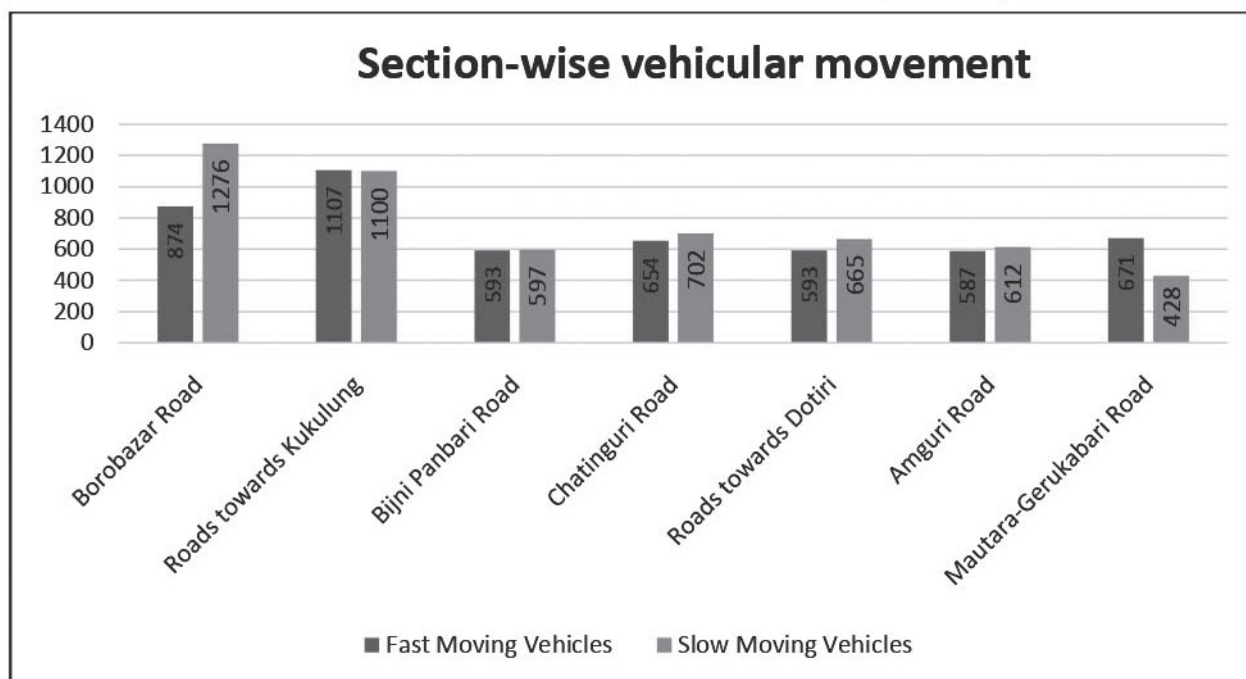
Traffic volume surveys are to be conducted along the major transport routes and at the major intersection. This would be carried out in order to generate idea about the traffic volume along the major routes and at the major intersections, the peak hour timing and the peak hour traffic and also the total day and the peak hour traffic composition.

TABLE 4.4 : TRAFFIC VOLUME SURVEY(Evening peak hour: 2P.M. -3 P.M. & 3P.M.-4 P.M.)

Name of the Road	Fast Moving Vehicles						Slow Moving Vehicles			Total
	Time	Bike	Car / Jeep	Mini Taxi (Winger, TATA magic, Tempo etc)	Mini Buses	Truck / Van / mini truck	Cycle	Rickshaw	Thela	
Borobazar Road	2-3 P.M.	315	34	27	0	47	370	160	28	981
	3-4.30 P.M.	340	48	24	0	39	490	210	18	1169
Road towards kukulung	2-3 P.M	362	40	186	12	25	404	130	28	1187
	3-4.30 P.M.	285	41	107	7	42	397	101	40	1020
BijniPanbari Road	2-3 P.M	215	37	6	1	19	221	43	12	554
	3-4.30 P.M.	227	32	17	0	39	228	77	16	636
Chatinguri Road	2-3 P.M	240	15	29	2	14	258	41	13	612
	3-4.30 P.M.	256	35	42	2	19	330	46	14	744
Roads towards Dotiri	2-3 P.M	106	32	43	0	58	217	42	34	532
	3-4.30 P.M.	174	51	57	0	72	283	45	44	726
Amguri Road	2-3 P.M	106	47	41	0	48	212	32	24	510
	3-4.30 P.M.	139	78	65	0	63	258	51	35	689
Mautara-Gerukabari Road	2-3 P.M	95	55	63	6	35	125	8	10	397
	3-4.30 P.M.	150	103	90	10	64	250	10	25	702
Total		3010	648	797	40	584	4043	996	341	10249

FIGURE 4.2: TRAFFIC COMPOSITION(EVENING)

Among the fast moving vehicle the Bike,Mini Taxi (Winger,TATA Magic, Tempo etc)andCar/Jeep has the highest number of composition. The reason is attributed to being the mode of main transit system in the town. The primary mode of communication of between Bijni and each nearby areas basically Kajalgaon District Head quarter is Mini Taxi and Mini Bus. There is a modest number of mini bus within and around the town. The Borobazar Road and Road towards Kukulung is the busiest of all during the evening Peak hour from 2 P.M. to 4.30 P.M.

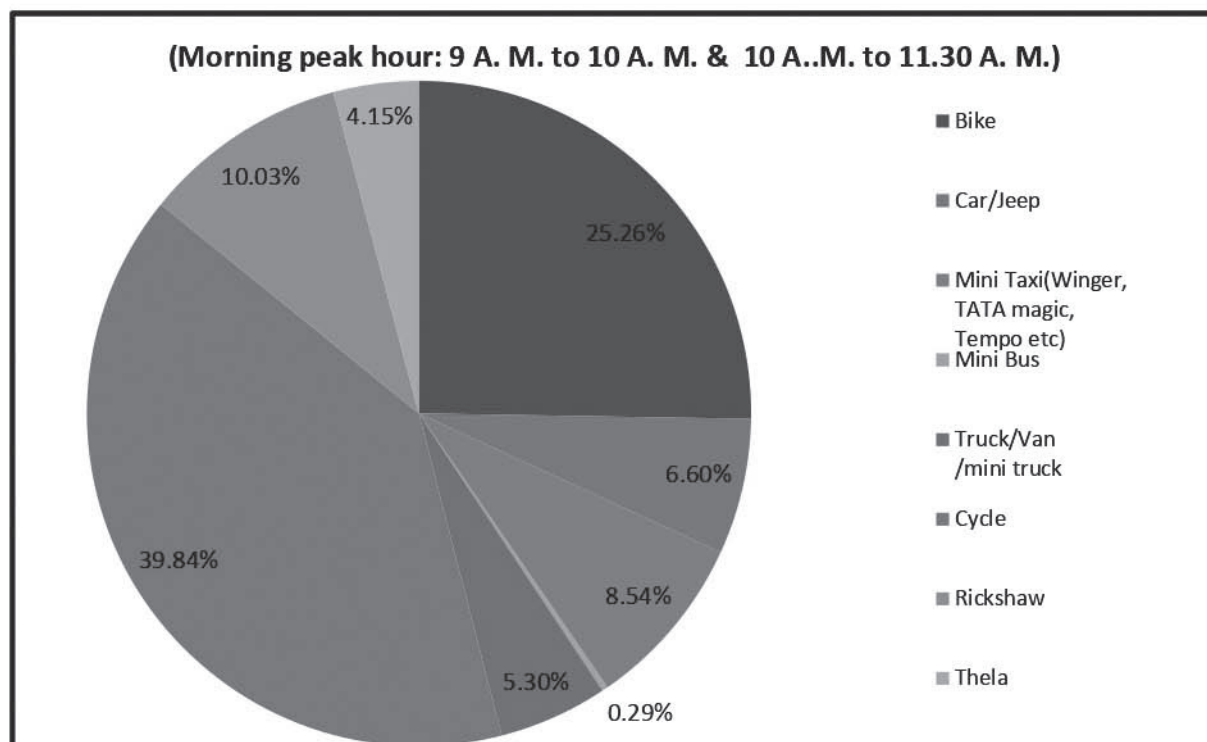
FIGURE 4.3: SECTION-WISE VEHICULAR MOVEMENT(EVENING)

Section-wise vehicular movement (Evening peak hour: 2P.M. – 3P.M. & 3P.M. – 4.30P.M.)

Borobazar Road has the highest slow moving vehicular movements while fast moving vehicle are less in number. Other roads show vehicular movement in equilibrium for both fast moving and slow moving.

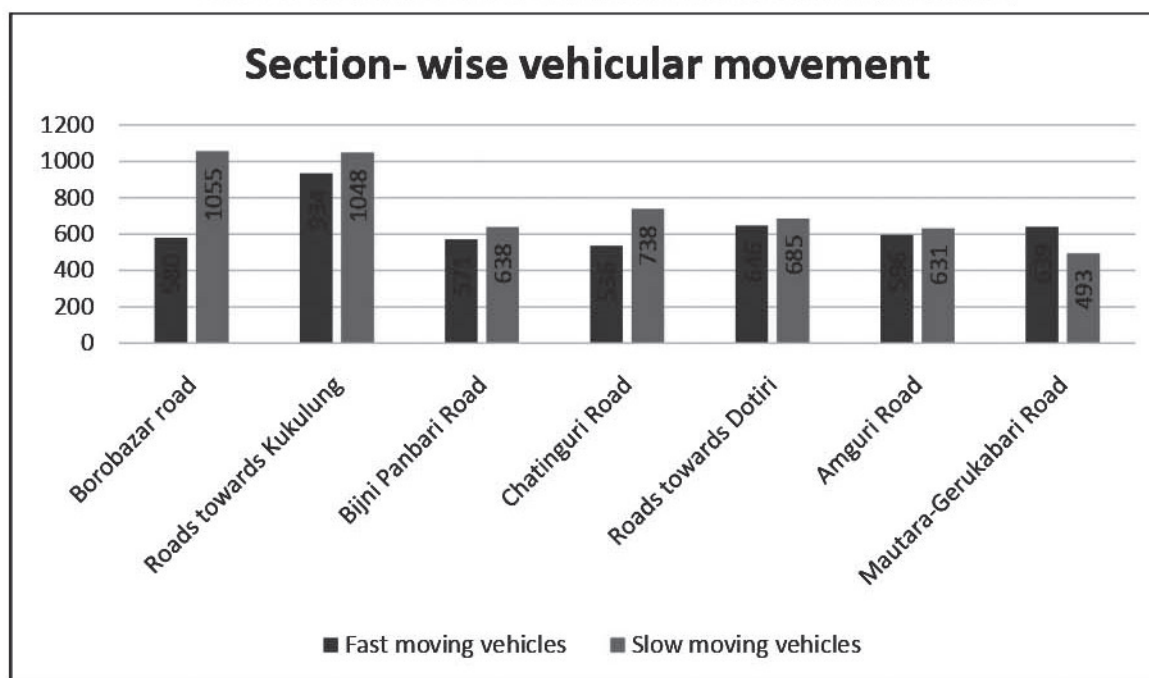
TABLE 4.5 : TRAFFIC VOLUME SURVEY(Morning peak hour: 9 A. M. to 10 A. M. & 10 A.M. to 11.30 A. M.)

Name of the Road	Time	Fast Moving Vehicles					Slow Moving Vehicles			Total
		Bike	Car / Jeep	Mini Taxi(Winger, TATA magic, Tempo etc)	Mini Buses	Truck/ Van /mini truck	Cycle	Rickshaw	Thela	
Borobazar Road	9-10 A.M.	159	20	120	4	6	215	218	20	762
	10- 11.30 A.M.	195	25	30	3	18	420	150	32	873
Road towards kukulung	9-10 A.M.	352	45	115	7	34	390	85	23	1051
	10- 11.30 A.M.	230	27	95	3	26	377	140	33	931
Bijni Panbari Road	9-10 A.M.	135	53	33	3	4	132	32	22	414
	10- 11.30 A.M.	249	62	8	0	24	358	58	36	795
Chatinguri Road	9-10 A.M.	170	23	23	0	11	288	39	32	586
	10- 11.30 A.M.	210	37	42	0	20	315	45	19	688
Road towards Dotiri	9-10 A.M.	137	43	46	0	68	243	47	38	622
	10- 11.30 A.M.	159	56	58	0	79	262	53	42	709
Amguri Road	9-10 A.M.	116	58	52	0	53	227	38	32	576
	10- 11.30 A.M.	127	62	59	0	69	243	47	44	651
Mautara-Gerukabari Road	9-10 A.M.	109	60	70	5	48	200	10	15	517
	10- 11.30 A.M.	125	75	85	3	59	230	20	18	615
Total		2473	646	836	28	519	3900	982	406	9790

FIGURE 4.4: TRAFFIC COMPOSITION (MORNING)

Bijni Town Traffic composition (Morning peak hour- 9-10 am & 10-11.30 am)

Among the Fast moving vehicles Bike and Mini Taxi (Winger, TATA magic, Tempo etc) has the highest number of composition followed by Car/Jeep, Truck/Van/Mini truck and Mini Bus Respectively. Borobazar Road and Roads towards Kukulung are the most busiest during Morning peak hour also from 9 A.M. to 11.30 A.M.

FIGURE 4.5: SECTION-WISE VEHICULAR MOVEMENT (MORNING)

Section-wise vehicular movement (Morning peak hour: 9 A.M. – 10 A.M. & 9 A.M. – 11.30 A.M.)

Borobazar road and Roads towards Kukulung both has the equal and highest number of slow moving vehicular movements. And Roads toward Kukulung has the highest fast moving vehicular movement. While all the roads have almost equal number of fast moving vehicular movement.

4.4 BUS STATION AND TRUCK TERMINUS

The Bijni Town Committee Bus Stand provides parking facilities to all the vehicles used for daily inward and outward commuting. Though the bus stand is not in good shape; it has sufficient space to provide services for future vehicular growth. It is required to develop the bus stand in full fledged manner. There is no truck terminus at BijniTown and the trucks do their loading and unloading of their goods on the road side itself.

There is no any on- street, off-street provision of parking in the city. The city has highly inadequacy of organized parking space for motorized vehicle. The cars are parked in the main road of the town creating congestion.

4.5 CITY ROAD NETWORK

No specific road network has been designed as the condition of the present roads need to be taken care of and after a period of five years a fresh plan will be taken up for this alternative network to improve the transportation system.

4.6 THE EXISTING ROADS

The existing roads are proposed to be upgraded in terms of ROW, capacity and other geometrics. The new roads need to be planned and designed for a higher level of service. Within the core area the roads will lose their characteristics and are to be developed as all-purpose roads. The primary arterial roads have a ROW varying between 15 to 30 m. In addition the city level roads comprise sub-arterial roads (10.5 - 18 m RoW), and collector roads (7.5-10 m R/W).

4.7 IMPROVEMENT OF INTERSECTIONS

The transport system plan includes improvement of intersection geometrics including provision of channelisers, acceleration/deceleration lanes, traffic signs, lighting etc and provision of appropriate traffic control systems. It is recommended that all the major intersections, especially those on the arterial and sub-arterials be signalised.

4.8 PEDESTRIAN FACILITIES

Walking is a predominant mode in the town. The transport system plan promotes and facilitates walking. The main strategies and measures proposed as part of the plan are as under:

- Provision of sidewalks on primary arterials, sub-arterials and collectors on both sides of the road and on at least one side on local roads
- Cross pedestrian facilities to be provided as per the warrants recommended by Indian Roads Congress.
- Sidewalks on all the major roads to be designed for level of service “C”

- Improvement measures in terms of pedestrian controlled facilities at intersections, grade separators and widening of sidewalks in the Central Area and along major corridors

4.9 PARKING POLICY

Every vehicle trip ends in a demand for parking of the vehicle at its trip ends. The parking of vehicles needs extensive and exclusive land area. Otherwise parking would spill over to other use areas like road carriageway and footpaths, open spaces. In turn they affect safety and environmental quality.

The escalating demand and varied needs of parking in the town area can only be met and organized in the framework of a comprehensive Parking Policy. Parking policy needs to move from 'non-restrictive' to 'restrictive' policy. 'Restrictive' policy would include from banning of parking to restricted provision, regulation and pricing of parking spaces.

4.10 LANE MARKINGS AND SIGNAGE

- All on-street parking spaces need to be clearly defined by lane markings.
- Adequate and appropriate signage's to be installed at all places on the street network to identify 'parking' and 'no parking' areas.
- Off-street parking places to be clearly identified by signs and distinguishing marks.

CHAPTER-5 : PHYSICAL INFRASTRUCTURE

5.1 WATER SUPPLY

5.1.1 EXISTING STATUS:

The Assam Urban Water Supply and sewerage Board (AUWSSB) and Bijni Town committee are involved in providing water supply in Bijni town partially. The details of water supply under AUWSSB are as follows:

TABLE 5.1: Water Supply Status

SL. NO.	FEATURE	NUMBER
1	Number of connections	40
2	Total hour of water supply	2 hour/day
3	Length of distribution line	22.00km
4	Number of overhead Tank	1 no.
5	Number of distribution Tank	1 no.

5.1.2 NORMS OF WATER SUPPLY:

Per capita water supply for designing of various schemes as suggested in “Manual on Water Supply and Treatment” of the Central Public Health Engineering Organization, Government of India is as follows:

1. 70 lpcd for Towns provided with piped water supply but without sewerage system;
2. 135 lpcd for Cities provided with piped water supply where sewerage system is existing/contemplated;
3. 150 lpcd for Metropolitan and Mega Cities provided with piped water supply where sewerage system is existing/contemplated.

For Bijni Master Plan Area 135 lpcd is assumed for water demand estimation keeping in view of partial existence of sewerage system or laying of complete sewerage system in future.

Table: 5.2 Projected Water Demand in different Units BMA for 2041

Unit	Projected Population	Gross Water Demand (in MLD) 2041
Bijni Town	29423	3.97
Bijni Village	27684	3.74
Bijni Masterplan Area	68384	9.23

Source: Calculated By Town & Country Planning Assam, Dist Office Bongaigaon

5.2 DRAINAGE AND SEWERAGE SYSTEM

There is no proper drainage network in Bijni town. Drains are partially pucca. The existing drainage network of Bijni town is mostly needs proper improvement in near future because of the growing demand. And under Bijni town committee there's exist two types of pucca drain which is covered Pucca drain and open drain. Even P.W.D Department provided one drainage network to the Bijni Town.

TABLE 5.3: DRAIN UNDER BIJNI TOWN COMMITTEE

Drain	Length(Km)
Covered Pucca drain	1.60
Open Pucca drain	2.05
Total	3.65

TABLE 5.4: DRAIN UNDER P.W.D. DEPARTMENT

Drain	Length(Km)
Covered Pucca drain	2.50
Total	2.50

5.2.1 PROJECTED WASTEWATER GENERATION

As per CPHEO guide line the entire water of a community should normally contribute to the total flow in a sanitary sewer. However, the observed Dry Weather Flow quantities usually are slightly less than the per capita water consumption, since some water is lost in evaporation, seepage in to ground, leakage etc. In arid regions, mean sewage flows may be as little as 40 percent of water consumption. In well developed areas, flows may be as high as 90% due to industrial wastes, changed water use habits etc. Generally 80% of the water supply may be expected to reach the sewer unless there is data available to the contrary.

Considering the various aspects of the guide line, the per capita wastewater generation for Bijni Town is estimated as 80% of the projected water supply. Projected wastewater generation is given in the following table

TABLE 5.5: PROJECTED WASTEWATER GENERATION

Unit	Projected Population 2041	Generated Waste Water Demandin (MLD) 2041
Bijni Town	29423	2.54
Bijni Village	27684	2.39
Bijni Masterplan Area	68384	5.91

5.3 SOLID WASTE MANAGEMENT

The major sources of waste generation in the town are households, commercial establishments, hotels and restaurants, daily market and weekly markets etc. Bijni town committee is primarily responsible for garbage collection, transportation and disposition. The town committee garbage carrier consists of one tractor, two trailers, eight Thela cart, two Thela van and forty small trolley. There are total 50 numbers of dustbins.

The total amount of waste generated in the town is about 0.50 M.T/day.

Forecasting waste quantities in the future is as difficult as it is in predicting changes of waste composition. The factors promoting change in waste composition are equally relevant to changes in waste generation.

For purposes of project identification, where an indication of service level must be estimated and data from the project preparation stage have not yet been developed, the following municipal refuse generation rates are suggested by the CPHEO manual on municipal solid waste management.

Residential refuse	:	0.3 to 0.6 kg/cap/day
Commercial refuse	:	0.1 to 0.2 kg/cap/day
Street sweepings	:	0.05 to 0.2 kg/cap/day
Institutional refuse	:	0.05 to 0.2 kg/cap/day

As per the manual on SWM, by NEERI, 1996 mentioned in the Manual on CPHEO, the Average per capita value (kg/capita/day) of solid waste generation by a city having population range of 1 lakh to 5 lakh is 0.21. On the basis of this the solid waste of Bijni Town has been calculated in the following table.

TABLE 5.6: ESTIMATED WASTE GENERATION

Year	Actual/Projected Population	Estimated Generation	
		Kg/Day/Person	MT/Day
2011	13257	0.21	2.78
2021	14317	0.21	3.01
2031	15462	0.21	3.25

CHAPTER-6 : SOCIAL INFRASTRUCTURE

The Bijni town has good number of academic institutes. Many private academic institutes are also coming up looking at the growing demand.

6.1 NORMS FOR PROVISION OF SCHOOL LEVEL EDUCATIONAL FACILITIES

The Urban Development and Plan Formulation and Implementation guide lines provide the following norms for setting educational facility according to requirement of the population and level of enrolment.

Table: 6.1 Norms for School Level Educational Facility

No	Educational Facility	Pop/Unit (approx)	Strength
1	Pre-primary School	2500	250
2	Primary School(I-V)	3,000-5,000	500
3	Senior Secondary School(VI-XII)	7,500	1000
4	College	1.25	1000-1500

Source: UDRPFI Guide Line.

On the basis of the norm provided in the above table, the requirement of educational facilities for Bijni Master Plan area has been chalked out for the projected population year of 2041.

Table: 6.2 BMA, Estimated School Level Educational Facility

No	Educational Facility	Estimated Requirement (Year 2041)
1	Pre-primary School	27
2	Primary School(I-V)	13
3	Senior Secondary School(VI-XII)	9
4	College	.....

Source: UDRPFI Guide Line.

Though the existing number of educational institute in the Bijni Master plan area are more than the required number given by the URDPFI guide line actually the strength intake of the institute are lesser as per the given

criteria. Hence more number of educational institute will be required. More over the service area of the institutes are beyond the Master Plan boundary.

6.2 **HEALTH**

The health facility is not adequate for the Abhayapuri Master Plan Area. As per URDPFI norm the total requirement of health infrastructure for the year of 2041 there will be requirement of one Intermediate Hospital (200 beds) per one lakh population, one intermediate hospital (80 beds) per one lakh population, one nursing home per one lakh population and 3 numbers of dispensaries for an estimated population of 68,384 for the Greater Abhayapuri area.

CHAPTER-7 : HOUSING

7.1 HOUSING CONDITION: ANALYSIS OF EXISTING HOUSING STOCK

B.M.A

Table: 7.1 AMA, Household and PC of Growth

	2001			2011			Percentage Growth (2001 to 2011)
	Population	Number Of HH	Person Per HH	Population	Number Of HH	Person Per HH	
BMA	32744	6299	5.20	37791	8140	4.64	29.2
Urban Area	12568	2447	5.14	13257	2926	4.53	19.6
Rural Area	20176	3852	5.24	24534	5214	4.71	35.4

Source: Census of India 2001, 2011

It is seen from the table that the growth of household has increased significantly which is 29.2 percent for Bijni MP. On the other hand the number of per person household has decreased from 5.20 to 5.14. The per-person household rate has seen a decreasing trend both in rural and urban areas of the master plan.

7.2 HOUSEHOLD ESTIMATION

The household for the projected year 2041 has been estimated with an average size of 4.64 which is 14729 against the population of 68,384.

Table: 7.2 Estimated Households for 2021, 2041

Year	Estimated House Hold		
	BMA	Town Area	Village
2021	12240	6066	3839
2031	13485	6280	4861
2041	14729	6494	5883

CHAPTER-8 : PROPOSED LAND USED PLAN

Table: 8.1 Proposed land use

Category (Proposed)	Area (Sqkm)	Total Proposed Land use (In Sq Km) (Existing + Proposed)
Residential	7.49	0
Residential Proposed	3.46	10.95
Commercial	0.59	0
Commercial Proposed	0.56	1.15
Industrial Proposed	0.53	0.53
Park/Open Space/Playground	0.64	0
Park/Open Space/Playground Proposed	0.75	1.40
Public & Semi-Public	0.81	0
Public & Semi-Public Proposed	0.52	1.33
Railway Land	0.20	0.20
Road	1.00	1.00
Total Developed Area	16.55	16.55
Agriculture	2.87	2.87
Forest	0.96	0.96
River & Water Bodies	1.26	1.26
Grand Total	21.65	21.65

Fig: 8.1 BMP Land use Distribution 2041

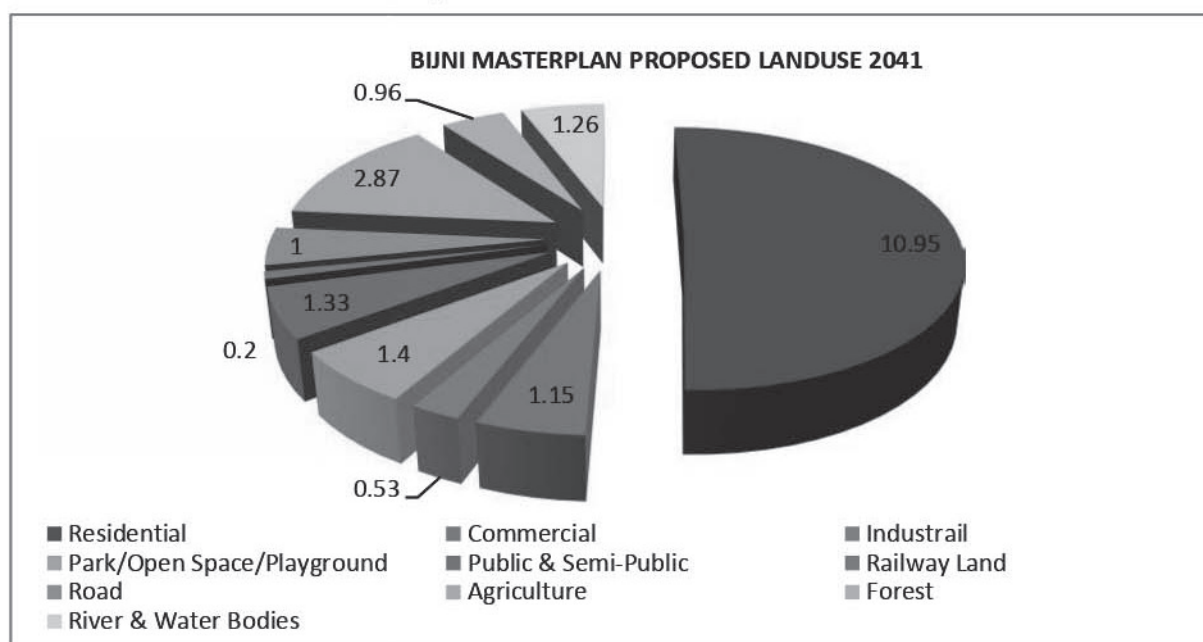


Table: 8.2 Land use Distribution BMA

Land use	UDRPFI Norms	Norms for BMA	Area in Sq KM	PC to Develop area	PC to Total area	Area in Hectare	Land in Hectare allocation per 1000 Population
Residential	45-50	48	10.95	66.1	50.58	1095	16.01
Commercial	2 to 3	5	1.15	6.9	5.31	115	1.68
Industrial	8 to 10	10	0.53	3.2	2.45	53	0.78
Public & Semi Public	6 to 8	8	1.33	8.0	6.14	133	1.94
Parks & Play ground and open space	12 to 14	14	1.40	8.5	6.47	140	2.05
Transport & Communication and utilities	10 to 12	15	1.00	6.0	4.62	100	1.46
Railway Land			0.20	1.2	0.92	20	23.92
		Total	16.56	100.0	.....	1656	0.0
River/ Water Bodies	.....	.....	1.26	.....	5.82	126	0.0
Agriculture/	.....	.....	2.87	.....	13.26	287	0.0
Forest			0.96		4.43	96	0.0
Total		100	21.65	100.0	100.0	2165	23.92

Source: Calculated By Town & Country Planning Assam, Dist Office Bongaigaon

The Land Use Plan – 2041 for BMA has been prepared considering:

- i) Accommodating existing and future development.
- ii) Improvement of existing condition of BMA and to develop the urban structure with a population of 68,384 by 2041.
- iii) Proposing need based infrastructural facilities.
- iv) Ensuring orderly transport network for easy accessibility of people and smooth movement of goods and services
- v) Restructuring of land uses based on sectoral studies.
- vi) Setting up of zoning regulation on the proposed land use basis for controlled growth and development of economic activity and maintaining and upgrading quality of life.

The proposed land use plan has been prepared taking into consideration the minimum dislocation of existing land uses inter – relating the highest order of activities with planning areas and establishing home work place relationship. The plan prepared will determinate a physical base for massive new growth through a major programme of land acquisition and Installation of infrastructures.

CHAPTER-9 : PROPOSED TRANSPORTATION PLAN

9.1 CITY ROAD NETWORK

The Bijni Masterplan 2041 recommends to develop a hierarchy based arterial road network system comprising primary arterial, sub-arterial and collector roads. The main functional roads recommended are:

- City Radials/Axial
- Alternative Corridors
- All Purpose Roads in Central Area

There is no such No specific road network designed as the condition of the present roads need to be taken care of and after a period of five years a fresh plan has to be taken up for this alternative network to improve the transportation system.

9.2 PROPOSED ROAD NETWORK

No such road network has been proposed except betterment has been recommended. Black topping and a minimum of 7.5 meter ROW need to be maintained at all levels while preparing the Local area plan. By preparing LAP, macro level details will be met up , rather taking the entire town pattern at the outset.

9.3 THE EXISTING ROADS

The existing roads are proposed to be upgraded in terms of ROW, capacity and other geometrics. The new roads need to be planned and designed for a higher level of service from their entry into BRMP to their meeting with the CBD orbital Road. Within the core area the roads will lose their characteristics and are to be developed as all-purpose roads. The primary arterial roads have a ROW varying between 15 to 30 m. In addition the city level roads comprise sub-arterial roads (10.5 - 18 m RoW), and collector roads (7.5-10 m R/W).

9.4 IMPROVEMENT OF INTERSECTIONS

The transport system plan includes improvement of intersection geometrics including provision of channelisers, acceleration/deceleration lanes, traffic signs, lighting etc and provision of appropriate traffic control systems. It is recommended that all the major intersections, especially those on the arterial and sub-arterials be signalised.

9.5 PEDESTRIAN FACILITIES

Walking is a predominant mode in the town. The transport system plan promotes and facilitates walking. The main strategies and measures proposed as part of the plan are as under:

- Provision of sidewalks on primary arterials, sub-arterials and collectors on both sides of the road and on at least one side on local roads
- Cross pedestrian facilities to be provided as per the warrants recommended by Indian Roads Congress.
- Sidewalks on all the major roads to be designed for level of service “C”
- Improvement measures in terms of pedestrian controlled facilities at intersections, grade separators and widening of sidewalks in the Central Area and along major corridors

9.6 PARKING PROPOSAL

Every vehicle trip ends in a demand for parking of the vehicle at its trip ends. The parking of vehicles needs extensive and exclusive land area. Otherwise parking would spill over to other use areas like road carriageway and footpaths, open spaces. In turn they affect safety and environmental quality.

The escalating demand and varied needs of parking in the town area can only be met and organized in the framework of a comprehensive Parking Policy. Parking policy needs to move from ‘non-restrictive’ to ‘restrictive’ policy. ‘Restrictive’ policy would include from banning of parking to restricted provision, regulation and pricing of parking spaces.

The on street parking has been proposed in the following road.

- a) Borobazar Road
- b) Bijni Panbari Road
- c) Road towards kukulung,
- d) Chatinguri Road,
- e) Road towards Dotiri
- f) Amguri Road
- g) Mautara- Gerukabari
Road

9.7 LANE MARKINGS AND SIGNAGE

- All on-street parking spaces need to be clearly defined by lane markings.
- Adequate and appropriate signage's to be installed at all places on the street network to identify 'parking' and 'no parking' areas.
- Off-street parking places to be clearly identified by signs and distinguishing marks.

CHAPTER-10 : CITY BEAUTIFICATION PLAN

The sub components of the Proposed City beautification plan are as follow:

- a. Facade renovation: It is s generally one exterior side of a building, usually the front. It is intended to restructure the commercial establishments along the main road of Abhayapuri town in to similar architectural design and colour. Every establishment along the main road will be accounted. The small commercial kiosks or shops are also proposed to give a common architectural design.
- b. Children's traffic park at Bijni Town: A traffic park or children's traffic park is a park in which children can learn the rules of the road.

Traffic parks are frequently created as an attraction within a larger park. In other cases, they are single-use parks and often small in scale.

Children are allowed to use bicycles or pedal-powered cars to navigate the streets and operate according to traffic laws. Typically, traffic parks are scaled-down versions of real street networks, with the lane and street-width proportional to the smaller vehicles. Often they include operating traffic signals and during busy times are even staffed with traffic police.

One of the intentions of the traffic park is to improve awareness of traffic safety among school-aged children. Many traffic parks enable children to gain hands-on experience crossing streets and with bicycle or other pedestrian safety challenges in a highly controlled environment devoid of actual motor vehicles.

- c. Walking zone at different location of Bijni Town.

-
- d. Footpath: Footpath or sidewalk is a portion of the street reserved only for pedestrian. It is proposed to provide walk able, clean, colorful and safe pedestrians free from encroachment and utility obstruction along the major roads of Bijni Master plan area.
 - e. Cycle track: Cycle tracks are reserved portion of the street only for cyclists. These are essential components of wide streets which safeguard cyclists from fast moving vehicles and encourage the use of cycles. Cycle track is proposed at different suitable location of Bijni Master plan area.

CHAPTER-11 : PLAN IMPLEMENTATION

11.1 *Zoning Plan*

Zoning means the method of accomplishing a suitable arrangement of different land use components of a town. Although it is an integral part of the overall plan yet it does not mean the only arrangement. Good zoning ensures right use of available land. In order to achieve the goals and objectives of the plan a zoning plan is prepared earmarking different use areas with suitable boundaries. This Zoning plan should be read in conjunction with the land use plan and zoning regulations appended herewith.

11.2 *Zoning Regulations*

Zoning Regulations play a very important role in controlling and promoting urban development and redevelopment in rational lines. They are also useful in limiting urban growth and in a broader sense can also be used for laying down broad directives in regional plan. Zoning regulations form an integral part of any Master Plan and these have been used extensively to control development of urban areas.

Zoning Regulations have been widely accepted as legal instrument of control and promotion of development and in fact it is the Zoning regulation that an ordinary developer comes into contact with while undertaking the development within the framework of any Master Plan. Thus, these regulations can do a great service in portraying the intension of the Master Plan and promotion its objectives.

Zoning Regulations would help in controlling density of development and land use in each zone in appropriate manner. Zoning Regulations for Bijni Master Plan Area will follow the uniform zoning regulation as approved and notified by the Government vide No.226, Dispur the 16th December, 2000 published in the Assam Gazette Extra-Ordinary on 16th December, 2000.

11.3 PLAN ADMINISTRATION

The Master Plan and Zoning Regulation for Bijni as presented here contains the broad policies and programmes for improvement and development of greater Bijni area up to the year 2041. The administration of this plan from its initiation to the realization will be carried out within the frame work of the Assam Town & Country Planning Act, of 1956 as amended from time to time.

The Town & Country Planning Organization of the State Government besides preparation of the Master Plan and zoning Regulation for Bijni will provide necessary guidance by rendering technical advice and by arranging proper scrutiny of the development schemes so as to ensure that the proposed development of Bijni conform to the proposals contained in the Master Plan and Zoning Regulations.

Section 8 of Assam Town & Country Planning Act, 1959 empowers the Government to constitute a Development Authority for the Abhayapuri Master Plan area for enforcement control and implementation of development proposals as envisages in the Bijni Master Plan. As per Section 13 of the same act all development to be undertaken within the Abhayapuri Master Plan area will be subjected to technical scrutiny and approval from the development authority so as to conform with the Master Plan.

11.4 FISCAL PLAN

There may be some changes of this Draft Master Plan for Bijni and therefore, no fiscal plan has been worked out at this stage. The final Master Plan when completed would provide a basis for preparation of five yearly development programmes and yearly fiscal plans for implementation.

11.5 CONCLUSION

Planning is a continuous process and the preparation of plan implies its actual translation into reality. The Master Plan for Greater Bijni is not just a land use classification elaboration but a vision document to make Bijni a

more sustainable city. Community participation in decision making process in the implementation of the Master Plan will make it a success.

